

Pending Claims
Accompanying Amendment in response to December 31, 2002 Office Action
U.S. Serial No. 09/908,993
(Docket No. 9614/OL414)

1. (Amended) A water softening device, comprising:

at least a first water softener and a second water softener;

at least one regeneration chamber for conducting regeneration
of each of said water softeners;

a hardness detection device for detecting the hardness of
treated water from each of said water softeners;

a control device for controlling the flow of raw water to each
of said water softeners and for controlling regeneration of each of said water
softeners;

said control device controlling the flow of raw water and
regeneration of each of said water softeners based on the difference between a
previous measurement value and a current measurement value from the hardness
detection device.

2. (Amended) The water softening device of Claim 1, further
comprising:

a sampling mechanism that samples treated water from inside
a resin layer of each of said water softeners;
wherein said hardness detection device detects the hardness of treated water
sampled by said sampling mechanism.

3. (Amended) The water softening device of Claim 1, further
comprising:

a non-regenerating polisher downstream of said water
softeners with respect to the flow of raw water through said water softening
device.

4. (Amended) The water softening device of Claim 2, further
comprising:

a non-regenerating polisher downstream of said water
softeners with respect to the flow of raw water through said water softening
device.

5. (Amended) The water softening device of Claim 1, wherein:
said water softeners are placed in a parallel arrangement with
respect to the water flow.

6. (Amended) The water softening device of Claim 5, wherein:

water flows alternately through said first water softener and said second water softener; and

said control device performs regeneration of one of said first water softener and said second water softener when the other of said first water softener and said second water softener has water flow therethrough.

7. (Amended) The water softening device of Claim 1, wherein:

said at least one regeneration chamber is common to said first water softener and said second water softener.

8. (Amended) A water softening method, the method comprising:

providing at least a first water softener and a second water softener;

conducting regeneration of each of said water softeners by using at least one regeneration chamber;

detecting hardness of treated water of said water softeners with a hardness detection device;

controlling the flow of raw water to each of said water softeners by using a control device; and

controlling regeneration of each of said water softeners by
using said control device;

said control device controlling the flow of raw water and the
regeneration of each of said water softeners based on the difference between a
previous measurement value and a current measurement value from the hardness
detection device.

9. (Amended) The water softening method of Claim 8, further
comprising:

sampling treated water from inside a resin layer of each of said
water softeners; and

detecting the hardness of treated water sampled.

10. (Amended) The water softening method of Claim 8, further
comprising:

treating water downstream of said water softeners with
respect to the flow of raw water through said water softeners with a non-
regenerating polisher.

11. (Amended) The water softening method of Claim 9, further comprising:

treating water downstream of said water softeners with respect to flow of raw water through said water softeners with a non-regenerating polisher.

12. (Amended) The water softening method of Claim 8, wherein:

said water softeners are placed in a parallel arrangement with respect to raw water flow.

13. (Amended) The water softening method of Claim 12, wherein:

water flows alternately through said water softeners; and
said control device performs regeneration of one water softener when the other water softener has water flow therethrough.

14. (Amended) The water softening method of Claim 8, wherein:

said at least one regeneration chamber is common to said first water softener and said second water softener.

15. (Amended) A water softening device, comprising:

at least a first water softener and a second water softener placed in a parallel arrangement with respect to raw water flow;

at least one regeneration chamber for conducting regeneration of each of said water softeners;

a hardness detection device for detecting hardness of treated water of said water softeners; and

a control device for controlling the flow of raw water to each of said water softeners and for controlling regeneration of each of said water softeners;

wherein water flows alternately through said water softener and said second water softener;

wherein said control device performs regeneration of one water softener when the other water softener has water flow therethrough; and

wherein said control device switches water flow from one water softener to the other when the difference between a previous measurement value and a current measurement value from the hardness detection device exceeds a predetermined value.

16. (Amended) The water softening device of Claim 15, wherein:

said at least one regeneration chamber is common to said first water softener and said second water softener.

17. (Amended) The water softening device of Claim 15, further

comprising:

a sampling mechanism that samples treated water from inside a resin layer of each of said water softeners;
wherein said hardness detection device detects the hardness of treated water sampled by said sampling mechanism.

18. (Amended) The water softening device of Claim 15, further

comprising:

a non-regenerating polisher downstream of said water softeners with respect to the flow of raw water through said water softening device.

19. (Amended) The water softening device of Claim 17, further

comprising:

a non-regenerating polisher downstream of said water softeners with respect to the flow of raw water through said water softening device.

20. The water softening device of Claim 3, wherein said non-regenerating polisher contains a Na^+ type ion exchange resin.

21. The water softening device of Claim 4, wherein said non-regenerating polisher contains a Na^+ type ion exchange resin.

22. The water softening method of Claim 10, wherein said non-regenerating polisher contains a Na^+ type ion exchange resin.

23. The water softening method of Claim 11, wherein said non-regenerating polisher contains a Na^+ type ion exchange resin.